

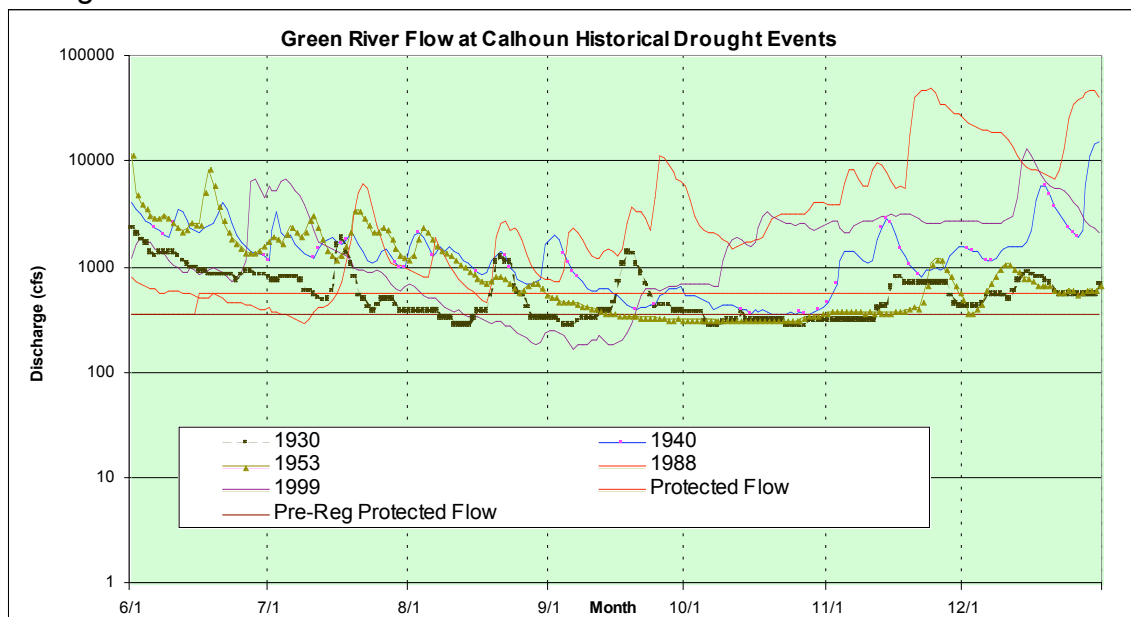
## **1.4.2 Appendix**

### **Documentation of conclusions for Green River availability related to FutureGen facility**

#### **I. Historical Low Flows**

The data used to assess available water at the proposed site is taken from the nearest upstream USGS stream gage, Green River at Lock 2, at Calhoun, #03320000. This gage is downstream of all four rivers impounded by the USACE reservoirs and has a drainage area of 7566 square miles. Low flow data was calculated for this gage and used to infer availability at the proposed site. The proposed site includes an additional 1100 square miles of drainage that will contribute additional flow to Green River. The data in Figure 1 is not adjusted for the difference in drainage areas between the reference gage at Calhoun and the proposed site.

Figure 1.



## **1.4.2 Appendix – page 2**

### **Documentation of conclusions for Green River availability related to FutureGen facility**

The data in Table 1 has been adjusted for additional flow expected from the increased drainage area based on a simple discharge:drainage area relationship.

Table 1. Proposed withdrawal as a percent of mean low flow during historical drought periods.

Historical low flow periods	Low Flow Duration (days)	Mean Low Flow (MGD)	Proposed Use Rate (percent of mean low flow)
1930	46	234	1.5
1940-1941	88	290	1.2
1953-1954	92	227	1.6
1988	24	256	1.4
1999	48	185	1.9

## **II. 7Q10 Low Flow Analysis**

Standard software used by USGS to calculate low flow statistics was used to evaluate flows in the Green River at Calhoun (see attached documents for pre and post regulation 7Q10). Conclusions were based on calculated 7Q10 statistics at Calhoun but recognize that flows at the proposed site will be slightly higher from the additional 1100 square miles of drainage between the USGS gage and the proposed site.

## **III. Availability**

Conclusions about availability were based on standard permitting guidelines for water withdrawal permits where a typical allocation is to be no more than 10 percent of the average flow of the stream on the lowest flow month. The lowest flows generally occur in August and September for USACE regulated rivers.

Reliable supply for a 2500 gpm withdrawal, and additional water for flexibility in make-up water requirements were based on the relative size of the withdrawal versus the calculated 7Q10: a withdrawal equal to or less than 5 percent of the 7Q10 is considered a minor withdrawal relative to flow.